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Wednesday, December 15, 2004

Case Serial Number: 10/821282

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Location: EIC 3600
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Search Notes

LITIGATION SEARCH
#
5720681

Source: Legal > Area of Law - By Topic > Patent Law > Patents > U.S. Patents > **Utility, Design and Plant Patents**
Terms: **patno=5720681** (Edit Search)

618259 (08) 5720681 February 24, 1998

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

5720681

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Link to Claims Section

February 24, 1998

Torque responsive actuation device

REISSUE: April 8, 2004 - Reissue Application filed Ex. Gp.: 3682; Re. S.N. 10/821,282 (O.G. August 3, 2004)

APPL-NO: 618259 (08)

FILED-DATE: March 18, 1996

GRANTED-DATE: February 24, 1998

CORE TERMS: pulley, cam, track, roller, actuation, cylindrical, helix, cover plate, travel, actuator ...

ENGLISH-ABST:

The invention is in a torque responsive actuation device, preferably for a belt drive system as is commonly utilized with snowmobile and like type vehicles. A bearing carrier of the invention is connected to a lower half of a split pulley, with the upper pulley half mounting a helix or cam cone that extends towards the carrier undersurface and includes a plurality of cam tracks formed therein that are each to receive a cam follower for travel therealong. Movement of the bearing carrier towards the top face of the pulley upper half is thereby translated to lower the pulley half to spread the pulley upper and lower halves apart, opening a V slot therebetween wherein a drive belt is maintained. A cylindrical shaft is journaled through the bearing carrier and fitted through the pulley that includes a coil spring disposed therearound for providing spring biasing to urge the bearing carrier away from the pulley upper half, biasing the pulley halves together. To provide minimum friction operation and wear the invention employs cam follower bearings as the cam followers and radiuses either the outer surface of rollers of each cam follower bearing or of the cam tracks to be convex and to have an apex that contacts and rolls along a center line of the opposing surface, the roller of each bearing to travel through a variety of cam angles during operation of the torque responsive actuation device.

Source: Legal > Area of Law - By Topic > Patent Law > Patents > U.S. Patents > **Utility, Design and Plant Patents**

Patents
Terms: **patno=5720681** (Edit Search)
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Patent Number :
US5720681 A 19980224 [US5720681]

Title :
(A) Torque responsive actuation device

Inventor(s) :
(A) BENSON STEVEN R (US)

Application Nbr :
US61825996 19960318 [1996US-0618259]

Priority Details :
US61825996 19960318 [1996US-0618259]

Intl Patent Class :
(A) F16D-043/20

EPO ECLA Class :
F16H-055/56
F16H-061/662F

US Patent Class :
ORIGINAL (O) : 474010000; CROSS-REFERENCE (X) : 192054520 192093000A 474021000

Document Type :
Basic

Citations :
US3195364; US3722308; US4173155; US4378221; US4523917; US4585429; US5403240; US5516333

Publication Stage :
(A) United States patent

Abstract :
The invention is in a torque responsive actuation device, preferably for a belt drive system as is commonly utilized with snowmobile and like type vehicles. A bearing carrier of the invention is connected to a lower half of a split pulley, with the upper pulley half mounting a helix or cam cone that extends towards the carrier undersurface and includes a plurality of cam tracks formed therein that are each to receive a cam follower for travel therealong. Movement of the bearing carrier towards the top face of the pulley upper half is thereby translated to lower the pulley half to spread the pulley upper and lower halves apart, opening a V slot therebetween wherein a drive belt is maintained. A cylindrical shaft is journaled through the bearing carrier and fitted through the pulley that includes a coil spring disposed therearound for providing spring biasing to urge the bearing carrier away from the pulley upper half, biasing the pulley halves together. To provide minimum friction operation and wear the invention employs cam follower bearings as the cam followers and radiuses either the outer surface of rollers of each cam follower bearing or of the cam tracks to be convex and to have an apex that contacts and rolls along a center line of the opposing surface, the roller of each bearing to travel through a variety of cam angles during operation of the torque responsive actuation device.

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Patent Number :
US5720681 A 19980224 [US5720681]

Application Number :

US61825996 19960318 [1996US-0618259]
Action Taken :
20040803 US/RF-A
REISSUE APPLICATION FILED
EFFECTIVE DATE: 20040408
Update Code :
2004-34

1 / 1 CRXX - ©CLAIMS/RRX
Patent Number :
5,720,681 A 19980224 [US5720681]
Patent Assignee :
Benson, Steven R
Actions :
20040408 REISSUE REQUESTED
ISSUE DATE OF O.G.: 20040803
REISSUE REQUEST NUMBER: 10/821282
EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 3682

Reissue Patent Number:

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Patent Number :
US 5720681 A 19980224 [US5720681]
Title :
Torque responsive actuation device
Inventor(s) :
BENSON STEVEN R [US]
Patent Assignee (Words) :
BENSON STEVEN R [US]
Application Details :
US 618259/96-A 19960318 [1996US-0618259]
Priority Details :
US 618259/96-A 19960318 [1996US-0618259]
Intl. Patent Class. :
F16D-043/20

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Patent Number :
US5720681 A 19980224 [US5720681]
Application Number :
US61825996 19960318 [1996US-0618259]
Action Taken :
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EFFECTIVE DATE: 20040408
Update Code :
2004-34